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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,455	02/26/2002	Charles P. Resor	43079/31062	6439
29493	7590	01/13/2005	EXAMINER	
HUSCH & EPPENBERGER, LLC 190 CARONDELET PLAZA SUITE 600 ST. LOUIS, MO 63105-3441			SAADAT, CAMERON	
			ART UNIT	PAPER NUMBER
			3713	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,455

Applicant(s)

RESOR, CHARLES P.

Examiner

Cameron Saadat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/15/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-26 is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

In response to amendment filed 9/15/2004, claims 1-16 and 18-26 are pending in this application. Claim 17 is cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (USPN 6,212,358; hereinafter Ho) in view of Abrahamson et al. (USPN 5,002,491; hereinafter Abrahamson).

Regarding claim 16, Ho discloses an electronic learning aid for teaching arithmetic skills, comprising: a question engine 110 for selecting and communicating to a user a plurality of questions, one question at a time; and a question-probability selector operably associated with said question engine and arranged to allow a user to select one of a plurality of question-probability settings (Col. 11, lines 57-61), such that when a setting is selected and said question engine is communicating questions, each question has a predetermined probability of being the next question communicated, the predetermined probability

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is equal to or greater than zero percent and less than or equal to one hundred percent; the probability of a question with a predetermined probability greater than zero percent can differ from the probability of a different question with a probability greater than zero percent; and the probability of a question with a probability greater than zero percent can differ from a greater-than-zero-percent probability of the same question when a different one of said settings is selected (Col. 12, lines 1-65). Ho additionally discloses an embodiment wherein the electronic learning aid may be implemented on a stand-alone unit (Col. 5, line 51 – Col. 6, line 10; Fig. 3B). Ho does not explicitly disclose that the electronic learning aid weighs less than one kilogram and functions without an external source of electricity. However, Abrahamson teaches a stand-alone learning aid that is hand-held, portable and may be carried by students as portable devices with numerous possible ranges of applications outside a classroom context (See Col. 3, lines 36-48; Col. 10, lines 43-46). In addition, it is notoriously well known to make portable computers light-weight (less than 1 kilogram) and capable of operating without an external source of electricity so that the portable computer can be easily carried (See Herron, USPN 6,042,383, Col. 2, line 64- Col. 3, line 3). Hence, in view of Abrahamson it would have been obvious to modify the learning aid described in Ho, by providing a portable learning aid in order to allow students to utilize the learning device outside of a classroom context.

Claims 1-3, 8, 10, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (USPN 5,934,909; hereinafter Ho) in view of Abrahamson et al. (USPN 5,002,491; hereinafter Abrahamson).

Regarding claim 1, Ho discloses an electronic learning aid for teaching arithmetic skills, comprising: a memory 120 for storing questions for presentation to a user; a question engine 112 for selecting and communicating to the user a plurality of questions from the questions stored in memory; an input device 226 for enabling said user to answer each question communicated to said user by said question engine; a scorer 102 for generating an evaluative score for a set of questions communicated by

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said question engine, said score being determined by how well said user answered the questions constituting said set by means of said input device; a score memory 113 for storing a predetermined plurality of evaluative scores generated by said scorer and information relating to said scores; and a display for displaying visually, in response to an input, each evaluative score stored in said score memory simultaneously with information relating to said score (Col. 13, lines 60-67). Ho additionally discloses that the components within the learning aid do not have to reside in one computer. Although Ho suggests that the learning aid is not required to be stand-alone, Ho also does not require the learning aid to not be stand-alone (Col. 4, lines 36-42). Additionally, Ho does not explicitly disclose that the electronic learning aid weighs less than one kilogram and functions without an external source of electricity. However, Abrahamson teaches a stand-alone learning aid that is hand-held, portable and may be carried by students as portable devices with numerous possible ranges of applications outside a classroom context (See Col. 3, lines 36-48). In addition, it is notoriously well known to make portable computers light-weight (less than 1 kilogram) and capable of operating without an external source of electricity so that the portable computer can be easily carried (See Herron, USPN 6,042,383, Col. 2, line 64- Col. 3, line 3). Hence, in view of Abrahamson it would have been obvious to modify the learning aid described in Ho, by providing a stand-alone, portable learning aid in order to allow students to utilize the learning device outside of a classroom context.

Regarding claim 2, Ho discloses an electronic learning aid, wherein the display displays the evaluative scores and related information one score at a time (Col. 13, lines 60-67; Figs 2B ref. 228; Fig. 5, ref. 270).

Regarding claims 3, 12, 14, Ho discloses all of the claimed subject matter with the exception of explicitly disclosing a switch for turning the learning aid to an off state and wherein the score memory and question memory are arranged to retain information when the learning aid is in said off state. However, it is the examiner's position that it is notoriously well known to utilize non-volatile memory for

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retaining memory contents when power is turned off. It would have been obvious to an artisan to modify the score memory described in Ho, by providing non-volatile memory in order to retain score information when power is turned off.

Regarding claim 8, Ho discloses an electronic learning aid, for teaching arithmetic skills, comprising: a memory 120 for storing questions for presentation to a user; a question engine 112 for selecting and communicating to the user a plurality of questions from the questions stored in memory; an input device 226 for enabling said user to answer each question communicated to said user by said question engine; a scorer 102 for generating an evaluative score for a set of questions communicated by said question engine, said score being determined by how well said user answered the questions constituting said set by means of said input device; a score-communication device for communicating said evaluative score to said user (Col. 13, lines 60-67); and a set of missed-questions memory for storing a predetermined plurality of questions that were answered incorrectly; the question engine, in conjunction with said missed-questions memory and in response to input, being arranged to develop and communicate to said user questions stored in said missed-questions memory (Col. 7, lines 48-52, Col. 8, lines 18-22; Col. 9, lines 34-53). Ho additionally discloses that the components within the learning aid do not have to reside in one computer. Although Ho suggests that the learning aid is not required to be stand-alone, Ho also does not require the learning aid to not be stand-alone (Col. 4, lines 36-42). Additionally, Ho does not explicitly disclose that the electronic learning aid weighs less than one kilogram and functions without an external source of electricity. However, Abrahamson teaches a stand-alone learning aid that is hand-held, portable and may be carried by students as portable devices with numerous possible ranges of applications outside a classroom context (See Col. 3, lines 36-48). In addition, it is notoriously well known to make portable computers light-weight (less than 1 kilogram) and capable of operating without an external source of electricity so that the portable computer can be easily carried (See Herron, USPN 6,042,383, Col. 2, line 64- Col. 3, line 3). Hence, in view of Abrahamson it would have been obvious to

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modify the learning aid described in Ho, by providing a stand-alone, portable learning aid in order to allow students to utilize the learning device outside of a classroom context.

Regarding claim 10, Ho discloses an electronic learning aid, wherein, in response to input, said question engine can, from the same group of questions stored in said missed-questions memory, develop and communicate to said user a plurality of scored sets of questions (Col. 10, lines 49-50).

Claims 4-7, 9, 11, 13, 15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (USPN 5,934,909; hereinafter Ho) in view of Abrahamson et al. (USPN 5,002,491; hereinafter Abrahamson), further in view of Sonnenfeld (USPN 6,112,049).

Regarding claims 4, 9, and 11 Ho discloses an electronic learning aid, comprising score memory 113 for storing and accessing most recent scores (Col. 5, lines 15-29) of sets of mastered and sets of missed questions. Ho and Abrahamson do not explicitly state that the score memory discontinues storing scores for a set of questions when it's necessary for storing a more recent set of questions. However, it is recognized that a storage medium provides a limited amount of storage, and it is therefore implicit to either delete old information to create more storage space for more recent information or to retain old information while expanding storage capacity. This solution is also described in Sonnenfeld, who teaches a learning aid wherein score information may be deleted from a storage medium (Col. 70, lines 54-58). Thus, it would have been obvious to one of ordinary skill in the art to modify the score storage unit described in Ho, by deleting dated scores to create storage space for updated score information in order to keep track of a student's most recent performance results, and thereby providing updated feedback to the student regarding test results.

Regarding claim 5, Ho discloses an electronic learning aid, wherein said display displays said evaluative scores and related information one score at a time (Col. 13, lines 60-67; Figs 2B ref. 228; Fig. 5, ref. 270).

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Regarding claims 6, 7, 13, 15, 18, Ho and Abrahamson disclose all of the claimed subject matter with the exception of explicitly disclosing a switch for turning the learning aid to an off state and wherein the score and question memory are arranged to retain scores when the learning aid is in said off state. However, it is the examiner's position that it is notoriously well known to utilize non-volatile memory for retaining memory contents when power is turned off. It would have been obvious to an artisan to modify the score memory described in Ho, by providing non-volatile memory in order to retain score and question information when power is turned off.

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (USPN 5,934,909; hereinafter Ho '909) in view of Abrahamson et al. (USPN 5,002,491; hereinafter Abrahamson), further in view of Ho et al. (USPN 6,212,358; hereinafter Ho 358').

Regarding claims 19-21 Ho ('909) discloses a question probability selector (Col. 15, lines 30-33) but does not explicitly disclose the feature of allowing a user to select question-probability settings wherein the probability of same questions and different questions can differ. However, Ho ('358) teaches a learning aid, comprising a probability selector that allows a user to select question-probability settings (Col. 11, lines 58-62), and wherein the probability setting of same questions or different questions can differ depending if the question is a learnt or un-learnt line item (Col. 12, lines 1-65). Hence, in view of Ho ('358), it would have been obvious to one of ordinary skill in the art to modify the probability selector described in Ho ('909), by allowing a user to select probability settings in order to assign probability rules to questions thereby determining whether to present learnt subject or unlearnt subject matter and to further reclassify questions as learnt or unlearnt subject matter based on a student's performance.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derks (USPN 5,724,357).

Derks discloses an electronic learning aid comprising: a question engine for selecting and communicating to a user a plurality of questions, one at a time; and an input device 24 for use by the user to respond to the questions; the question engine having a mode in which the time to respond to a question is based upon the character length of the correct response (Col. 3, lines 39-48; Col. 11, lines 23-30).

Derks does not explicitly disclose that having a longer response time limit for correct responses that require, more than one alphanumeric character (as per claim 22) or more than three alphanumeric characters (as per claim 23). However, since Derks clearly suggests adjusting the response time based on the character length of a correct response, it would have been obvious to one of ordinary skill in the art to increase the response time for a correct response that requires a user to input more than one character since an increased number of keystrokes would take longer to input.

Allowable Subject Matter

Claims 24-26 are allowed. The following is an examiner's statement of reasons for allowance:

Patentability is seen in, although not limited to: independent claim 24, the combination elements specifically claimed including an electronic learning aid for teaching arithmetic skills, comprising a question engine for communicating a plurality of questions, one at a time; and an input device for a user to respond to the questions, the question engine having a mode in which the question engine ceases accepting a response to a question upon the entry of an incorrect alphanumeric character, the question engine in response to the entry of an incorrect alphanumeric character displaying a subsequent question, wherein the question engine further waits for a predetermined period before accepting a response to the subsequent question. The closest prior art of record does not teach or fairly suggest this feature in the combination.

Response to Arguments

Applicant's arguments (see remarks P. 19-20), filed 9/15/04, with respect to claims 24-26 have been fully considered and are persuasive. The rejection of these claims has been withdrawn.

Applicant's arguments with respect to claims 1, 8, 16, and 22 have been considered but are moot in view of the new ground(s) of rejection.

Applicant emphasizes that Ho '358 is designed for a very formal, high-level instructional environment, arguing that learning through play is not even a consideration in Ho '358. In response to applicant's argument that the reference fails to show certain features of applicant's invention, it is noted that the feature of learning through play is not recited anywhere in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's evidence of secondary considerations of commercial success are not persuasive. The arguments of counsel cannot take the place of evidence in the record, which must be supported by an appropriate affidavit or declaration - *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). The reason for requiring evidence in declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 25 and 18 U.S.C. 1001. See MPEP §716.02(g)

Applicant emphasizes that Ho '909 only describes extracting scores and does not disclose the feature of displaying evaluative scores and related information one score at a time. However, Ho discloses a learning aid comprising a display 228 wherein the display presents the evaluative scores and related information one score at a time (Col. 13, lines 60-67; Figs 2B ref. 228; Fig. 5, ref. 270).

Applicant further asserts that the combination of Ho'909 and Sonnenfeld does not teach an *automatic* operation for discontinuing storage of scores when necessary for storing more recent scores.

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However, it is noted that the rejected claims do not include a limitation of automatically discontinuing storage.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Herron (USPN 6,042,383) – discloses a portable learning aid that is light-weight (less than 1 kilogram) and capable of operating without an external source of electricity so that the portable computer can be easily carried (See Herron, USPN 6,042,383, Col. 2, line 64- Col. 3, line 3).
- McGregor et al. (USPN 5,842,869) – disclose an electronic mathematics training device.
- Genin (USPN 4,016,411) – discloses a portable training device for mathematics.
- Wood (USPN 6,142,784) – discloses a mathematical learning game and method.
- Hirano et al. (USPN 4,225,932) – disclose an instructional calculator.
- Culley (USPN 4,340,374) – discloses an electronic learning aid for mathematics.
- Sakaue et al. (USPN 4,340,375) – disclose an electronic learning aid for solving math problems.
- Colombat (USPN 4,954,977) – discloses a pedagogic calculating device for arithmetic instruction.
- Nakajima et al. (USPN 3,787,988) – disclose a method and system for teaching arithmetic.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is (571) 272-4443. The examiner can normally be reached on M-F 9:00 - 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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XUAN M. THAI
PRIMARY EXAMINER
AU3713